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ABSTRACT

English teachers tend to welcome computers uncritically into the classroom, resulting in three problem areas: (1) a lack of critical thinking about computers and their role in writing pedagogy; (2) a limited selection of computer-assisted instruction that is both theoretically and pedagogically sound; and (3) a limited program of research on the effects of computers on writing, writers, and the teaching of writing. Without advanced planning or systematic faculty discussions about the role of computers in writing instruction, teachers may find themselves with purchased software that has not been tested or with software that has been recommended by computer scientists who have little or no understanding of composition theory and research. When English teachers do take the time to examine computers from a fresh vantage point, they need to take a critical look at the software and look for programs that take students beyond drill and practice, grammar and spelling, and games and graphics. Similarly, teachers need to take advantage of the computer research that has already been done, to continue to explore the effects of computers on writing, and to strike out in some new directions of their own. (HOD)

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Slouching Toward Bethlehem: Where Are We Going?

Working Draft: 15 Nov., 1985

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In 1978, in a landmark book on composition research, Richard Young quoted Coleridge to explain how paradigms can result in a narrowing of vision, "a tacit compact among the learned not to pass beyond a certain limit" in speculating about a subject (p. 30). Young also cited Kenneth Burke who noted that paradigms are "a way of seeing" and of "not seeing," and concluded that such structures could limit the nature and direction of teaching, research and theory in a field. His purpose in this discussion was to ask professionals in English composition to view their discipline from a new vantage point.

Today, our profession is faced with a similar problem--the problem of developing new vantage points from which to examine the computer revolution now raging in the field of composition instruction.

But if we acknowledge this problem, we must also acknowledge our failure, as a profession, of addressing it. In most cases, we have been content to "see" and "understand" computers in terms of machines we already know. We have observed that computers can function like highly sophisticated typewriters, and so we incorporate them into our classrooms as word-processors--with minimal changes to the curriculum. We understand that computers can function as intelligent teaching machines, and so we incorporate them

into our writing labs as electronic tutors--again with minimal restructuring of the teaching and learning environment.

However, if we take a careful look at computers, we can see that these fuzzy and outdated machine metaphors are not be the most accurate or useful terms we can use to understand the relationship between computers and writing. In fact, none of the evidence collected thus far, supports the perception that computers act merely as "intelligent" typewriters or simply as "super" teaching machines. Even preliminary research suggests that computers have had a much more profound impact on writing, language, and thinking--that they have altered the very nature, the content, and the form of human communication (Hiltz and Turoff, 1978; Kling, 1980; Kiesler et al, 1984, Selfe and Wahlstrom, 1985).

Because we have been willing to "see" computers vaguely, in terms of traditional technologies and traditional pedagogical approaches, we have discouraged, in the ranks of English professionals, innovative uses of these machines and critical speculation about them. We have, until very recently, been content to let the great "rough beast" of the computer revolution slouch toward Bethlehem at its own pace--unexamined, unchecked, unmolested by systematic observation.

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Our imprecise identification of the beast has resulted in three problem areas: a lack of critical thinking about computers and their role in writing pedagogy; a limited selection of computer-assisted instruction that is both theoretically and pedagogically sound; and a limited programme of research on the effects of computers on writing, writers, and the teaching of writing.

For the next few minutes, I'd like to explore each of these three problem areas briefly with you and suggest just a few of the projects that need to be undertaken if we hope to get an accurate fix on the beast's approach.

Thinking Critically About Computers in Writing Programs

One manifestation of our tendency to welcome computers so uncritically into English composition classrooms and writing programs has been the inclination to view the electronic pen as a solution to all writing problems. Administrators, eager to find a quick fix for declining SAT scores and written communication skills, see computers a way of satisfying both teachers and parents.

All too often, unsuspecting English teachers, who have expressed interest in computer-assisted writing instruction,

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return to school in September to find that they have been put in charge of a new word-processing lab. In the worst of these situations, without advanced planning or systematic faculty discussions about the role of computers in writing instruction, such teachers find that they must purchase software they haven't tested, conduct crash programs in computer literacy for overworked colleagues, and integrate computers into writing programs based on their experiences with paper-and-pencil composing. In other situations, teachers find that crucial decisions about hardware have been made by budget directors who opt for the least expensive machines, that software has been recommended by computer scientists who have little or no understanding of composition theory and research, or that entire computer labs have been configured by electricians according to the placement of available wall sockets.

In fact, it is extremely difficult to criticize the administrators who have turned to computers as the ultimate solution to writing problems when we see our colleagues falling prey to the same "quick-fix" mentality.

Although we as English teachers have the advantage of knowing the full range and complexity of writing problems exhibited by students, we have been only slightly more cautious about heralding computers as panaceas for writing ills. In the

last twelve months, for example, teachers have written in professional publications to describe how computers can solve writing problems in middle schools (Bickel, 1984), high schools (Herrmann, 1985), and colleges (Day, 1985); to espouse computers for teaching English as a second language (Dalgish, 1985), teaching invention (Rodrigues and Rodrigues, 1984), and teaching revision (Womble, 1984); to discuss how computers can solve problems in first-year composition courses (Moore, 1985), advanced composition courses (Marling, 1985), and basic-skills courses (Hull, 1985); to show how computers can instruct students in literary studies (Schwartz, 1984), grammar (Southwell, 1984), narration (Selfe, 1984), and nutshelling (Von Blum and Cohen, 1984); and to support the use of computers as tutors in writing classrooms (Redmond, Lawrence, and Villani, 1985) writing programs (Bridwell and Ross, 1984), and writing labs (Selfe, 1985).

The other day, at my home institution, I was treated to an dramatic illustration of just how crucial it is for composition teachers to contribute their own critical perspective to the instructional use of computers in writing programs--to construct, as it were, their own revolutionary vision of the beast.

At Michigan Tech, our Humanities Department is in the process

of putting together a computer-assisted writing lab with the help of our academic computing specialists. Now these specialists, based on their experiences with labs designed for engineering and computer science students, went to a great deal of trouble to design a state-of-the-art lab that was, unfortunately, completely inappropriate for use as a writing facility.

The computer specialists, for example, had worked out the precise placement of eight rank-and-file rows of work stations facing the front of the room, aligned carefully so that consultants could discourage casual conversational exchanges. For furnishing the lab, the computer specialists suggested small, cubical-type work desks that would allow for the economical arrangement of thirty-five machines in the room. For hardware, because these specialists pictured a writing lab as a room full of individual authors tapping away in isolation, sharing only the use of a common word-processing program, the computer specialists suggested an un-netted system of microcomputers. The machines, they noted, should be numbered so that data about lab-use could be easily tabulated. The software for the facility was considered only briefly. The computer people assumed we would be happy to use the cost-free package that accompanied the microcomputers that they had selected.

It was fortunate, in this case, that our composition faculty had done some critical thinking about the use of computers in a functional writing program. They decided that the lab should be arranged with star-shaped clusters of machines rather than rows, because such an arrangement would encourage students to collaborate frequently on writing projects at all stages of the writing process and facilitate work in small peer-editing groups.

Of course the clusters meant that the cubicle-type work stations wouldn't do. The writing teachers suggested the machines be placed on large tables so that students had room to spread out their drafts and notes. The large tables meant that only twenty-five machines could be located in the lab, but when the writing faculty sat down to think about it, quantity and economy were less important than their ability to teach writing classes in the new facility. For hardware, the writing teachers suggested a netted system with electronic mail so that students and teachers could share their papers flexibly--with an entire class or a small group. Software was also a point of disagreement, the composition faculty opted for a new medium-priced word-processing program with bibliographic and indexing functions that the free word-processing program did not have.

Finally the composition faculty decided that ease in

collecting lab-use figures did not preclude a sense of whimsy or a humanistic view of technology. They decided to differentiate machines by naming them after literary figures. Last week we had a contest to name the computers, and I was afraid it was going to incite a favorite-author war between our faculty and students. Garrison Keiller won out over Keats.

What strikes me about this incident is how very differently each group saw the beast. Without some deliberate, critical input by our Humanities faculty, the vision of the computer scientists would have controlled and shaped the use of computers in our writing program in an inappropriate way. And I worry about this same thing happening in other parts of the country in writing labs just like our own.

Creating Useful CAI for Writing Programs

When English teachers do take time to to examine computers from a fresh vantage point, they can take a critical look at software as well as hardware--especially the commercial software available to teachers for use in writing programs. I suspect it has been our eagerness to lick those writing problems that plague our students which has encouraged us to buy and use the limited CAI now available from publishers and

software vendors. It is, we have found, far easier to purchase and rely on ready-made, word-processing programs, grammar drills, and spelling checkers than it is to go through the laborious process of creating better programs ourselves.

It does not help, of course, that English teachers have become pragmatists. We realize that home-grown software based on a sound knowledge of rhetorical principles and modern composition research, is difficult to create. We see that the design process is lengthy; that tenure committees don't always recognize software programs as substitutes for scholarly publications, and that publishing firms are reluctant to front large sums money for development purposes.

Each time I receive a catalogue from a software concern, I struck by our limited choices of commercial CAI--not a limited number of programs, but rather a limited range of high quality programs--software that will take our students beyond drill and practice, beyond grammar and spelling, beyond games and graphics. Last week, I made a quick check of three current software catalogues sitting on my desk to make sure the CAI offerings had not changed: in those sections labeled English or Composition, I found 97 programs covering grammar/mechanics, including 12 that promised to teach sentence-diagramming skills; 110 programs dealing with

spelling, including one program that promised to show students lists of "more than 1000 spelling demons;" 87 vocabulary programs, including Word Builder, Word Blaster, and Word Whiz; but only 24 programs which hinted at a process-based approach to composition.

Now, of course, there are more exciting projects than the ones I just mentioned available to us. Harcourt Brace Jovanavich has taken a bold stand in publishing WANDAH, there is Helen Schwartz' SEEN, Hugh Burn's invention programs, Bill Wresch's essay-writing program, Robert Bishop's journalism software, and other new programs with emphases on process-based writing instruction, audience analysis, or sentence combining. But these programs are so obviously in the minority that I am not at all convinced that we have done our most innovative thinking about CAI, that we have stretched our imagination about the potential of the beast.

Personally, I would like to see our software efforts keep pace with our profession. I would like to see sophisticated software that would help me teach cohesion and coherence, Scenario-based programs that would help me teach audience analysis. I want software that helps me train students to give better peer critiques and programs that will help me teach them how to change writer-based prose into reader-based prose. I am, in other words, looking for computer software

that is based on the very best information we currently have about writing.

Researching the Role of Computers in Writing Programs

And this all brings me to what I see as a third problem area. I suspect that our contentment to "understand" computers in terms of the teaching machines we worked with over a decade ago, has blunted the demand for a systematic programme of research that explores the connections between computers and writers. We have, for example, seen some preliminary investigations on the effects of computers on students' writing efforts (Bickle, 1985; Day, 1985; Haselkorn and Conners 1985; Sommers, 1985; Wombel, 1985). Unfortunately, these projects, based as they are on different hardware, different software, different lab configurations, different assignments, and different rhetorical assumptions--remain relatively isolated ventures that provide us with only a dim vision of a much larger whole.

Similarly, although preliminary work has been done to identify how computers affect composing processes (Bridwell, 1984; Selfe, 1985), little effort has been made to connect the findings of such studies with the findings of studies done in related fields. For instance, we have little hard

information on how the value of computers as writing tools is affected by students' age (Kulik et al, 1980, 1983, 1984); gender (Kiesler, 1983); educational needs (Fisher, 1983); or preference for auditory (Less, 1985), visual or tactile learning.

I would like to see us begin to explore these connections with other fields, to take advantage of the computer research that has already been done, and to strike out in some new directions ourselves. We have limited information, for example, on how computers affect collaborative writing efforts; how they affect teachers' responses to student writing; or students' responses to their peers' writing. We have little empirical data on how spelling checkers, style-analysis programs, or electronic thesauruses affect composing processes and products; or how computers alter the ways in which students learn about writing and the ways in which teachers teach writing. Because we have done so little research, we have very sketchy information about about how computers will affect the communication and rhetorical theories upon which we base our teaching. How do computers for example, affect the ownership and the authorship of text or of ideas? How do they affect the production of language or linguistic structures in student writing? How do computers affect the audience, the message, text itself?

A Closer Look at the Beast

Here I should pause and apologize for the dim picture I have painted thus far. I do not want to suggest that we were all asleep while the rough beast shambled toward the walls of the town. Rather I would like to suggest that, during the initial introduction of computers into the field of English, we have been understandably content to see the beast in a limited sense. We come to our first understanding of it in terms of familiar, traditional technologies or we have seen it according to the visions others have constructed and passed along to us. As a profession, we have not yet really had the time, or the necessary expertise, or the confidence to take a long, hard, critical look at the animal for ourselves.

Now that the first stage of the computer revolution in English is over, however, I think we may be ready to take a closer, more challenging look at the beast; to assume some new vantage points for our observations; to test our initial assumptions with critical thinking. And I think it is safe to suggest that the three problem areas that I just described are excellent starting places for us.

We can start on this task right in our own backyards. Even if we know very little about what makes the internal circuits of

a computer snap, we can sit down with our English colleagues and think critically and deliberately about how computers can best support our writing classrooms and programs. We can force ourselves to identify the assumptions about writing and the teaching of writing that we hold in common as a faculty and think logically about how computers will help us achieve our pedagogical goals. We can insist that administrators provide us input in choices in planning computer labs.

We can also re-examine our thinking about the computer-assisted instruction available to us on the commercial market. We can identify for software houses and publishers the kinds of software we would like to see in writing-intensive classrooms and programs. We can tell these people that we need process-based software to complement the product-based packages; that we need CAI that focuses on idea generation, drafting strategies, audience analysis, and rhetorical decisions as well as CAI that instructs students on how to use commas and avoid sentence fragments.

And if we find that these efforts prove less than successful, we can create CAI ourselves, forming software design teams with computer scientists, education specialists, and marketing experts at our home institutions--teams that do have the expertise necessary to create software that is sound pedagogically and theoretically, and advanced

technologically. We can also work on administrators and tenure and promotion committees to recognize the importance of software design in the field of English.

Finally, we can test our new vision of computers with an increased level of systematic research, research designed to chart accurately and precisely the effects of computers on writing. If we don't have access to large populations and controlled experimental settings, if we aren't trained in statistical analysis, we can still make systematic observations about computers in our own classrooms and writing labs, with our own students, and our own English faculty. And, we can report our findings in professional journals like Computers and Composition, Collegiate Microcomputers, and Computers and the Humanities so that other teachers can benefit from our work and experience.

My message here is simple. I am saying, that its time for us to break the "tacit compact" among the learned, to force ourselves to challenge the current uses of and thinking about computers in our own field. We can walk slowly around the beast, we can approach it from a number of directions and a multitude of perspectives, and, in doing so, we can formulate a more accurate picture of the animal with which to work in the coming years.

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